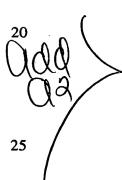
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WHAT IS CLAIMED IS:

- A cloned gene encoding the expression of an antigenic mutant pertussis toxin with substantially reduced enzymatic activity.
- 2. An antigenic mutant pertussis toxin having substantially reduced enzymatic activity.
- 3. The mutant toxin of claim 2 having a single amino acid substitution comprising replacing arginine with lysine at position 9 of S1 subunit.
 - 4. A composition comprising immunogenic amount of the toxin of claim 2 in a pharmaceutically acceptable carrier.



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